REMARKS

Reconsideration and allowance of the claims of the present application are respectfully requested.

Before addressing the specific grounds of rejection raised in the present Office Action, applicants acknowledge, with thanks, the Examiner's remarks regarding the allowability of Claims 1-3 and 5-9. The remaining pending claims, i.e., Claims 10-17 remain rejected in view of the disclosure of U.S. Patent No. 6,492,270 to Lou ("Lou").

Concerning the rejected claims, applicants have amended independent Claim 10 to positively recite that *the first metal lines of the first metal wiring level have an upper surface that is planar to an upper surface of said first metal wiring level.* Support for this amendment to Claim 10 is found in FIGS. 13-23. Applicants have also amended Claim 10 to positively recite that the mechanically rigid dielectric layer is deposited atop the lower metal wiring level including the first metal lines positioned within the low-k dielectric. This latter amendment was performed to provide the structural relationship between the mechanically rigid dielectric layer, the first metal lines and the low-k dielectric.

Since the above amendments to the claims do not introduce any new matter into the specification of the instant application, entry thereof is respectfully requested.

In the present Office Action, Claims 10-16 and 18 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Lou. Claim 17 stands rejected under 35 U.S.C. § 103 as alleged unpatentable by the disclosure of Lou.

Turning to the rejection of Claims 10-16, and 18 under 35 U.S.C. § 102(b), it is axiomatic that anticipation under § 102 requires the prior art reference to disclose every

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element to which it is applied. *In re King,* 801 F.2d 1324, 1326, 231 USPQ 36, 138 (Fed Cir, 1986). Thus, there must be no differences between the subject matter of the claim and the disclosure of the prior art reference. Stated another way, the reference must contain within its four corners adequate direction to practice the invention as claimed. The corollary of the rule is equally applicable: absence from the applied reference of any claimed element negates anticipation. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

Applicants respectfully submit that the disclosure of Lou does not anticipate the method recited in Claim 10 since the applied reference does not disclose a method that includes the steps of *providing a lower metal wiring level having first metal lines positioned within a lower low-k dielectric, said first metal lines having an upper surface that is planar to an upper surface of said first metal wiring level; depositing a mechanically rigid dielectric layer atop said lower metal wiring level including said first metal lines positioned within said low-k dielectric*, said mechanically rigid dielectric layer is a material selected from the group consisting of SiO_2, a doped silicate glass, a carbon doped oxide and SiC; forming at least one via through said mechanically rigid dielectric layer to a portion of said first metal lines; and forming an upper metal wiring level having second metal lines positioned within a upper low-k dielectric, said second metal lines being electrically connected to said first metal lines through said via, wherein said via comprises a metal having a coefficient of thermal expansion that substantially matches said mechanically rigid dielectric layer, said mechanically rigid dielectric layer separating said upper metal wiring level from said lower metal wiring level.

Applicants first observe that in the applied reference the first metal line 220, which is capped with an anti-reflective coating (ARC) 210 is embedded within a first

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dielectric 240. As such, the applied prior art reference does not disclose applicants' claimed method in which a step of *providing a lower metal wiring level having first metal lines positioned within a lower low-k dielectric, said first metal lines having an upper surface that is planar to an upper surface of said first metal wiring level* is employed.

Secondly, the applied reference does not disclose the use of a mechanically rigid dielectric layer selected from the group consisting of SiO_2, a doped silicate glass, a carbon doped oxide and SiC as the material that is formed atop the claimed lower wiring level. Lou discloses forming a SiN layer 250 atop a lower metal wiring level.

The forgoing remarks clearly demonstrate that the applied reference does not teach each and every aspect of the claimed invention as required by *King* and *Kloster Speedsteel; et. al.*, therefore the claims of the present application are not anticipated by the disclosure of Lou. Applicants respectfully submit that the instant § 102 rejection has been obviated and withdrawal thereof is respectfully requested.

Turning to the rejection of Claim 17 under 35 U.S.C. § 103, applicants submit that Lou fails to render applicants' claimed invention, as recited in Claim 17, unpatentable for the same reasons that Lou fails to anticipate applicants' claimed invention. Applicants respectfully submit that the above remarks, concerning the deficiencies of Lou to anticipate applicants' claimed method, apply equally well to the obviousness rejection. Thus, the above remarks are incorporated herein by reference.

The § 103 rejection also fails because there is no motivation in Lou which suggests modifying the method disclosed therein to include applicants' claimed method, as recited in Claim 10. The rejection is thus improper since the prior art *does not* suggest this drastic modification. The law requires that a prior art reference provide some teaching, suggestion, or motivation to make the modification obvious.

Here, there is no motivation provided in the disclosures of the applied prior art reference, or otherwise of record, which would lead one skilled in the art to modify the methods of the applied reference to provide applicants' claimed method. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch,* 972 F.2d, 1260,1266, 23 USPQ 1780,1783-84 (Fed. Cir. 1992).

Based on the above remarks, the § 103 rejection of Claim 17 has been obviated; therefore reconsideration and withdrawal of the instant rejection are respectfully requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

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